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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/684,828 | 10/14/2003 | Manilal S. Dahanayake | 56,0555CNT2 | 9858 |
| 27452 | 7590 | 11/14/2006 | EXAMINER TUCKER, PHILIP C | |
| SCHLUMBERGER TECHNOLOGY CORPORATION IP DEPT., WELL STIMULATION 110 SCHLUMBERGER DRIVE, MD1 SUGAR LAND, TX 77478 | | | ART UNIT 1712 | PAPER NUMBER |

DATE MAILED: 11/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/684,828

Applicant(s)

DAHANAYAKE ET AL.

Examiner

Philip C. Tucker

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2006.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 114 and 116-145 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 114, 116-145 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 114, 116, 117, 120-126 and 129 are rejected under 35 U.S.C. 102(b) as being anticipated by, or under 35 U.S.C. 103(a) as being unpatentable over Syrinek (5009799).

Syrinek teaches a method of fracturing a subterranean formation using a fluid which is viscosified with a betaine inner salt which falls within the scope of the surfactant of the present invention.(see formula II in column 2). Such surfactant would impart viscoelasticity to the fluid. The teaching in claim 1 of the use of the betaine at levels of 30%, and the level of 100 gpt in Table VIII, would clearly lead one of ordinary skill in the art to envisage levels within the scope of the present invention (about 0.88%). The fluid may comprise organic acids or salts (examples 2 and 5). The fluid may contain hydrochloric acid up to levels of 28%, which would render a pH within the scope of the present invention (see Table VIII). To the extent that one of ordinary skill would not instantly envisage the level greater than 0.5%, such would clearly be obvious to one of ordinary skill in the art.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 114, 138, 141-143 are rejected under 35 U.S.C. 103(a) as being unpatentable over Syrinek (5009799) in view of Bonekamp (5258137).

Syrinek teaches a method of fracturing a subterranean formation using a fluid which is viscosified with a betaine inner salt which falls within the scope of the surfactant of the present invention.(see formula II in column 2). The teaching in claim 1 of the use of the betaine at levels of 30%, and the level of 100 gpt in Table VIII, would clearly lead one of ordinary skill in the art to envisage levels within the scope of the present invention (about 0.88%). Such surfactant would impart viscoelasticity to the fluid. The fluid may comprise organic acids or salts (examples 2 and 5). The fluid may contain hydrochloric acid up to levels of 28%, which would render a pH within the scope of the present invention (see Table VIII). Syrinek differs from the present invention in that the use of a foam is not disclosed. Bonekamp teaches that using foams formed from viscoelastic surfactants in fracturing operations has the advantages of being shear stable, easily pumped, have high viscosities at high temperatures, and do not leave an insoluble residue (see abstract and column 1, lines 59-64). It would be obvious to one of ordinary skill in the art to foam the fluids of Syrinek in fracturing operations, in order to obtain the advantages taught by Bonekamp.

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 114 and 116-137 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-32 of U.S. Patent No. 6703352. Although the conflicting claims are not identical, they are not patentably distinct from each other because although the present claims teach the utility of a pH of 3 or less, the specification of 6703352 at column 7, lines 53-60 teaches that the fluid therein may have a pH of 3 or less, and as such the pH of the present claims would be rendered obvious to one of ordinary skill in the art (see MPEP 804, and *In re Vogel* therein).

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7. Claims 114, 131, 134, 138-140, 141-145 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-32 of U.S. Patent No. 6703352 in view of Bonekamp. These claims further differ from above in teaching the use of a foamed fluid. Bonekamp teaches that using foams formed from viscoelastic surfactants in fracturing operations has the advantages of being shear stable, easily pumped, have high viscosities at high temperatures, and do not leave an insoluble residue (see abstract and column 1, lines 59-64). It would be obvious to one of ordinary skill in the art to foam the fluids of 6703352 in fracturing operations, in order to obtain the advantages taught by Bonekamp.

8. Applicant's amendments and arguments have been noted. Applicant's arguments with regard to the concentration of the betaine in Syrinek is noted. As seen in claim 1 of Syrinek, the betaine salt may comprise 30 mol% of the mixture with the alkoxylated amine. In view of the teaching of the use of 100 gpt in Table VIII, one of ordinary skill in the art would envision or at least obviously recognize a level of 0.882% in view of the examples. Applicants Terminal Disclaimer is not acceptable, since the Attorney signing the Terminal Disclaimer is not officially of record (not on original Declaration or subsequent Power of Attorney).

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip C. Tucker whose telephone number is 571-272-1095. The examiner can normally be reached on Monday - Friday, Flexible schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Philip C Tucker
Primary Examiner
Art Unit 1712

PCT-3972